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**SUGGESTED SOLUTION**

**INTERMEDIATE M'19 EXAM**

**SUBJECT- EIS AND S.M.**

**Test Code - PIN 5067**

**BRANCH - () (Date :)**

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**ANSWER-1****(15\*1 = 15 MARKS)**

1. A
2. C
3. A
4. D
5. A
6. D
7. C
8. D
9. D
10. A
11. D
12. D
13. C
14. C
15. A

**ANSWER-2****ANSWER-A**

The Data Warehouse extracts data from one or more of the organization's databases and loads it into another database for storage and analysis purpose. A data warehouse should be designed so that it meets the following criteria:

It uses non-operational data. This means that the data warehouse is using a copy of data from the active databases that the company uses in its day-to-day operations, so the data warehouse must pull data from the existing databases on a regular, scheduled basis.

- The data is time-variant. This means that whenever data is loaded into the data warehouse, it receives a time stamp, which allows for comparisons between different time periods.
- The data is standardized. Because the data in a data warehouse usually comes from several different sources, it is possible that the data does not use the same definitions or units. For the data warehouse to match up different formats, a standard format (for example – date) would have to be agreed upon and all data loaded into the data warehouse would have to be converted to use this standard format. This process is called Extraction-Transformation-Load (ETL).

**(4 MARKS)**

- There are two approaches to follow when designing a data warehouse:
  - The Bottom-Up Approach starts by creating small data warehouses called Data Marts to solve specific business problems. As these data marts are created, they can be combined into a larger data warehouse.
  - The Top-Down Approach suggests that we should start by creating an enterprise-wide data warehouse and then, as specific business needs are identified, create smaller data marts from the data warehouse.

**ANSWER-B**

**Hardware Virtualization:** Hardware Virtualization or Platform Virtualization refers to the creation of a virtual machine that acts like a real computer with an operating system. Software executed on these virtual machines is separated from the underlying hardware resources. For example, a computer that is running Microsoft Windows may host a virtual machine that looks like a computer with the Linux operating system; based software that can be run on the virtual machine.

The basic idea of Hardware virtualization is to consolidate many small physical servers into one large physical server so that the processor can be used more effectively. The software that creates a virtual machine on the host hardware is called a hypervisor or Virtual Machine Manager. The hypervisor controls the processor, memory and other components by allowing several different operating systems to run on the same machine without the need for a source code. The operating system running on the machine will appear to have its own processor, memory and other components.

(2.5 MARKS)

**Network Virtualization:** Network Virtualization is a method of combining the available resources in a network by splitting up the available bandwidth into channels, each of which is independent from the others, and each of which can be assigned (or reassigned) to a particular server or device in real time. This allows a large physical network to be provisioned into multiple smaller logical networks and conversely allows multiple physical LANs to be combined into a larger logical network. This behaviour allows administrators to improve network traffic control, enterprise and security. Network virtualization involves platform virtualization, often combined with resource virtualization.

Various equipment and software vendors offer network virtualization by combining any of the Network hardware such as switches and Network Interface Cards (NICs); Network elements such as firewalls and load balancers; Networks such as virtual LANs (VLANs); Network storage devices; Network machine-to-machine elements such as telecommunications devices; Network mobile elements such as laptop computers, tablet computers, smart phones and Network media such as Ethernet and Fibre Channel. Network virtualization is intended to optimize network speed, reliability, flexibility, scalability, and security.

(2.5 MARKS)

**ANSWER-C**

**Mortgage Loan:** A Mortgage loan is a secured loan which is secured on the borrower's property by marking a lien on the property as collateral for the loan. If the borrower stops paying, then the lender has the first charge on the property. Mortgages are used by individuals and businesses to make large real estate purchases without paying the entire value of the purchase up front. Over the period of many years, the borrowers repay the loan amount along with interest until there is no outstanding.

(2.5 MARKS)

**Types of Mortgage Loan are as follows:**

- ◆ **Home Loan:** This is a **traditional mortgage** where customer has an option of **selecting fixed or variable rate of interest** and is provided for the purchase of property.
- ◆ **Top Up Loan:** Here the customer already has an **existing loan and is applying for additional amount** either for refurbishment or renovation of the house.
- ◆ **Loans for Under Construction Property:** In case of under construction properties the loan is **disbursed in tranches / parts** as per construction plan.

**(1.5 MARKS)**

**ANSWER-3**

**ANSWER-A**

Let us define the variables first:

**PM:** Purchase Mode

**BA:** Bill Amount

**N:** Counter (to track the number of purchases)

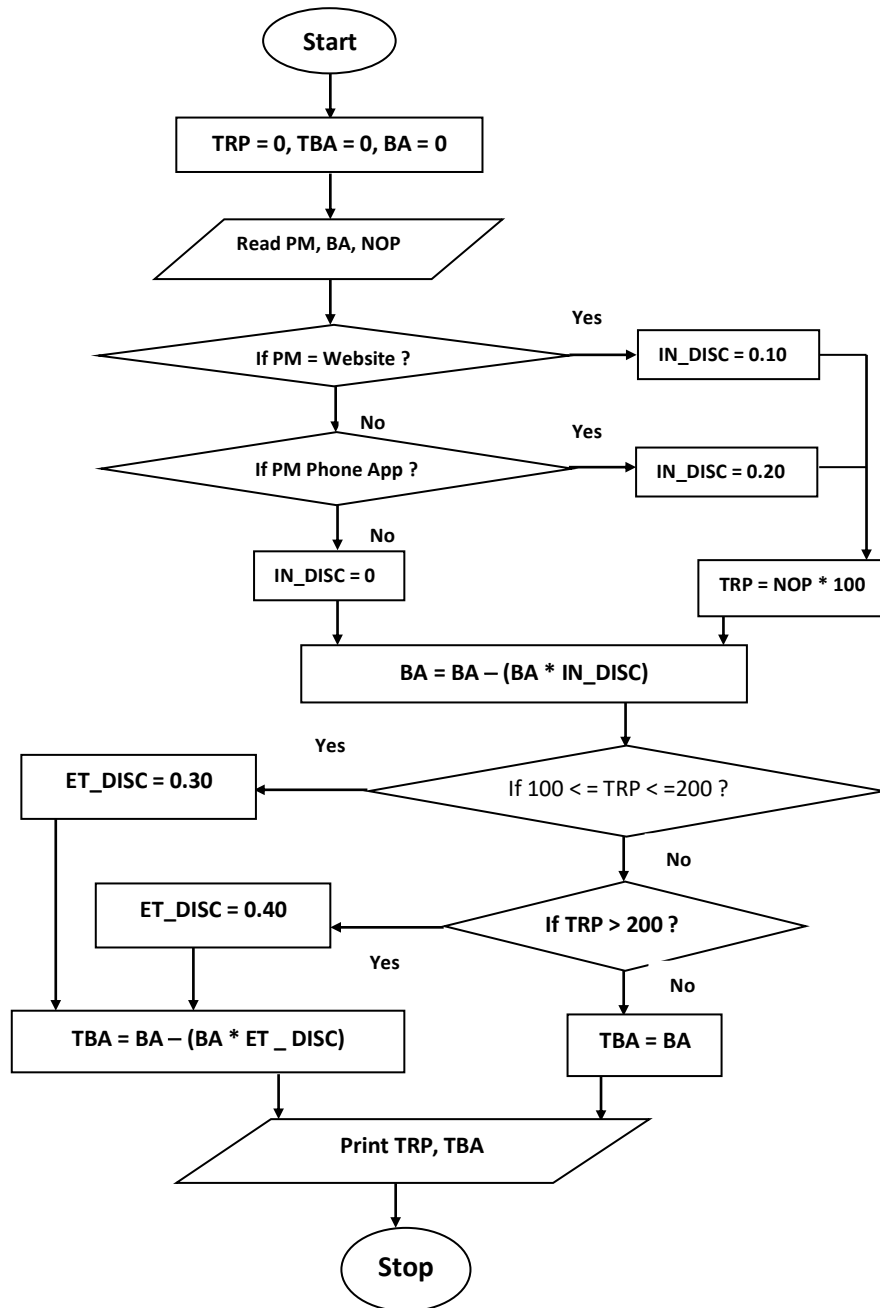
**TBA:** Total Bill Amount

**NOP:** Number of Purchases

**TRP:** Total Reward Points

**IN\_DISC:** Initial Discount

**ET\_DISC:** Extra Discount on purchases eligible to Initial Discount



(6 MARKS)

### ANSWER-B

A **Voucher Number** or a **Document Number** is a **unique identity of any voucher/ document**. A voucher may be identified or searched using its unique voucher number. The peculiarities that must be considered while allotting a voucher number to a voucher are as follows:

- Voucher number must be **unique**.
- Every voucher type shall have a **separate numbering series**.
- A voucher number may have **prefix or suffix or both**, e.g. ICPL/2034/17-18. In this case, "ICPL" is the prefix, "17-18" is the suffix and "2034" is the actual number of the voucher.
- All vouchers must be **numbered serially**, i.e. 1,2,3,4,5,6 and so on.
- All vouchers are recorded in **chronological order** and hence voucher recorded earlier must have an earlier number, i.e. if voucher number for a payment voucher having date as 15th April 2017 is 112, voucher number for all the vouchers recorded after this date shall be

more than 112 only.

(4 MARKS)

#### ANSWER-4

#### ANSWER-A

To develop security architecture, following constraints are taken from the characteristics of grid environment and application.

- **Single Sign-on:** A user should **authenticate** once and they should be able to acquire resources, use them, and release them and to communicate internally without any further authentication.
- **Protection of Credentials:** User passwords, private keys, etc. should be **protected**.
- **Interoperability with local security solutions:** Access to local resources should have local **security policy** at a local level. Despite of modifying every local resource there is an **inter-domain security server** for providing security to local resource.
- **Exportability:** The code should be exportable i.e. they cannot use a large amount of encryption at a time. There should be a **minimum communication at a time**.
- **Support for secure group communication:** In a communication, there are number of processes which coordinate their activities. This **coordination must be secure** and for this there is no such security policy.
- **Support for multiple implementations:** There should be a security policy which should provide security to multiple sources based on **public and private key cryptography**.

(6\*1 = 6 MARKS)

#### ANSWER-B

**Core Banking Solution (CBS)** refers to a common IT solution wherein a central shared database supports the entire banking application. Business processes in all the branches of a bank update a common database in a central server located at a Data Center, which gives a **consolidated view of the bank's operations**. Branches function as **delivery channels providing services to its customers**. CBS is centralized Banking Application software that has several components which have been designed to meet the demands of the banking industry. CBS is supported by advanced technology infrastructure and has **high standards of business functionality**. These factors provide banks with a **competitive edge**. Core Banking Solution brings **significant benefits** such as a customer is a customer of the bank and not only of the branch. Further, the CBS is **modular in structure** and is capable of being implemented in stages as per requirements of the bank. A CBS software also enables **integration of all third-party applications**, including in-house banking software, to facilitate **simple and complex business processes**. Some examples of CBS software are given below. These are only illustrative and not exhaustive.

(1.5 MARKS)

- **Finacle:** Core banking software suite developed by Infosys that provides **universal banking functionality** covering all modules for banks covering all banking services.
- **FinnOne:** Web-based global banking product **designed to support banks and financial solution companies** in dealing with assets, liabilities, core financial accounting and customer service.

- **Flexcube:** Comprehensive, integrated, interoperable, and modular solution that enables banks to manage evolving customer expectations.
- **BaNCS:** A customer-centric business model which offers simplified operations comprising loans, deposits, wealth management, digital channels and risk and compliance components.
- **Bank Mate:** A full-scale Banking solution which is a scalable, integrated e-banking systems that meets the deployment requirements in traditional and non-traditional banking environments. It enables communication through any touch point to provide full access to provide complete range of banking services with anytime, anywhere paradigm.

(5\*0.5 = 2.5 MARKS)

Further, there are many CBS software developed by vendors which are used by smaller and co-operative banks. Some of the banks have also developed in-house CBS software. However, the trend is for using high-end CBS developed by vendors depending on cost-benefit analysis and needs.

### ANSWER-5

### ANSWER-A

The controls per the time that they act, relative to a security incident can be classified as under:

- **Preventive Controls:** These controls prevent errors, omissions, or security incidents from occurring. Examples include simple data-entry edits that block alphabetic characters from being entered in numeric fields, access controls that protect sensitive data/ system resources from unauthorized people, and complex and dynamic technical controls such as anti-virus software, firewalls, and intrusion prevention systems. Some examples of preventive controls can be Employing qualified personnel; Segregation of duties; Access control; Vaccination against diseases; Documentation; Prescribing appropriate books for a course; Training and retraining of staff; Authorization of transaction; Validation, edit checks in the application; Firewalls; Anti-virus software (sometimes this acts like a corrective control also), etc., and Passwords. The above list contains both of manual and computerized, preventive controls.
- **Detective Controls:** These controls are designed to detect errors, omissions or malicious acts that occur and report the occurrence. In other words, Detective Controls detect errors or incidents that elude preventive controls. Detective controls can also include monitoring and analysis to uncover activities or events that exceed authorized limits or violate known patterns in data that may indicate improper manipulation. Some examples of Detective Controls are Cash counts; Bank reconciliation; Review of payroll reports; Compare transactions on reports to source documents; Monitor actual expenditures against budget; Use of automatic expenditure profiling where management gets regular reports of spend to date against profiled spend; Hash totals; Check points in production jobs; Echo control in telecommunications; Duplicate checking of calculations; Past-due accounts report; The internal audit functions; Intrusion Detection System; Cash counts and bank reconciliation, and Monitoring expenditures against budgeted amount.
- **Corrective Controls:** Corrective controls are designed to reduce the impact or correct an error once it has been detected. Corrective controls may include the use of default dates on invoices where an operator has tried to enter the incorrect date. For example- Complete changes to IT access lists if individual's role changes is a corrective control. If an accounts clerk is transferred to the sales department as a salesman his/her access rights to the general

ledger and other finance functions should be removed and he/she should be given access only to functions required to perform his sales job. Some other examples of Corrective Controls are Submit corrective journal entries after discovering an error; A Business Continuity Plan (BCP); Contingency planning; Backup procedure; Rerun procedures; Change input value to an application system; and Investigate budget variance and report violations.

**(3\*2 = 6 MARKS)**

**ANSWER-B**

Risks and Controls related to the Order to Cash (O2C) business process are as follows:

Risks	Controls
The customer master file is not maintained properly and the information is not accurate.	The customer master file is maintained properly and the information is accurate.
Invalid changes are made to the customer master file.	Only valid changes are made to the customer master file.
All valid changes to the customer master file are not input and processed.	All valid changes to the customer master file are input and processed.
Changes to the customer master file are not accurate.	Changes to the customer master file are accurate.
Changes to the customer master file are not processed in a timely manner.	Changes to the customer master file are processed in a timely manner.
Customer master file data is not up-to-date and relevant.	Customer master file data is up to date and relevant.
System access to maintain customer masters has not been restricted to the authorized users.	System access to maintain customer masters has been restricted to the authorized users.

**(4 MARKS)**

**ANSWER-6**

**(15\*1 = 15 MARKS)**

1. C
2. A
3. D
4. A
5. D
6. A
7. D
8. B
9. C
10. B



- 11. A
- 12. D
- 13. B
- 14. A
- 15. A

#### ANSWER-7

#### ANSWER-A

Shoaib wishes to diversify in a business that is not related to their existing line of product and can be termed as conglomerate diversification. He is interested in acquiring another industrial unit located in Lucknow manufacturing tableware such as dinner sets, cups and saucers, bowls, which is not related to their existing product. In conglomerate diversification, the new businesses/ products are disjointed from the existing businesses/products in every way; it is a totally unrelated diversification. In process/ technology/ function, there is no connection between the new products and the existing ones. Conglomerate diversification has no common thread at all with the firm's present position.

On the other hand, Salim seeks to move forward in the chain of existing product by adopting vertically integrated diversification. The cloth being manufactured by the existing processes can be used as raw material of garments manufacturing business. In such diversification, firms opt to engage in businesses that are related to the existing business of the firm. The firm remains vertically within the same process and moves forward or backward in the chain. It enters specific product/process steps with the intention of making them into new businesses for the firm. The characteristic feature of vertically integrated diversification is that here, the firm does not jump outside the vertically linked product-process chain.

Both types of diversifications have their own benefits. While vertically integrated diversification brings synergy a conglomerate diversification helps in diversifying the risk. It is possible that a downturn in one business is offset by upswing in other business. In the vertically integrated diversification firms can take advantage of their existing competence that in turn will improve chances of success.

(5 MARKS)

#### ANSWER-B

A core competence is a **unique strength** of an organization which may not be shared by others. Core competencies are those capabilities that are critical to a business achieving competitive advantage. In order to qualify as a core competence, the competency should differentiate the business from any other similar businesses. A core competency for a firm is whatever it does is highly beneficial to the organization.

'Value for Money' is the leader on account of its **ability to keep costs low**. The cost advantage that 'Value for Money' has created for itself has allowed the retailer to price goods lower than competitors. The core competency in this case is derived from the company's ability to generate large sales volume, allowing the company to remain profitable with low profit margin.

(3 MARKS)

## ANSWER-C

Business Process Reengineering (BPR) is an **approach to unusual improvement** in operating **effectiveness** through the **redesigning of critical business processes** and supporting business systems. It is **revolutionary redesign of key business processes** that involves examination of the basic process itself. It looks at the minute details of the process, such as why the work is done, who does it, where is it done and when it is done. BPR refers to the **analysis and redesign of workflows and processes** both within the organization and between the organization and the external entities like suppliers, distributors, and service providers.

The orientation of redesigning efforts is basically radical. In other words, it is a total **deconstruction and rethinking of business process in its entirety**, unconstrained by its existing structure and pattern. Its **objective is to obtain quantum jump** in process performance in terms of time, cost, output, quality, and responsiveness to customers. BPR is a revolutionary redesigning of key business processes. BPR involves the following steps:

(2 MARKS)

1. **Determining objectives and framework:** Objectives are the desired end results of the redesign process which the management and organization attempts to achieve. This will provide the required **focus, direction, and motivation** for the redesign process. It helps in **building a comprehensive foundation** for the reengineering process.
2. **Identify customers and determine their needs:** The designers have to understand customers – their profile, their steps in acquiring, using and disposing a product. The purpose is to **redesign business process** that clearly provides **added value to the customer**.
3. **Study the existing process:** The existing processes will provide an important base for the redesigners. The purpose is to **gain an understanding** of the ‘what’, and ‘why’ of the targeted process. However, some companies go through the reengineering process with clean perspective without laying emphasis on the past processes.
4. **Formulate a redesign process plan:** The information gained through the earlier steps is **translated into an ideal redesign process**. Formulation of redesign plan is the **real crux of the reengineering efforts**. Customer focused redesign concepts are identified and formulated. In this step alternative processes are considered and the best is selected.
5. **Implement the redesign:** It is **easier to formulate new process** than to implement them. Implementation of the redesigned process and application of other knowledge gained from the previous steps is key to achieve dramatic improvements. It is the joint responsibility of the designers and management to operationalize the new process.

(5\*1 = 5 MARKS)

## ANSWER-8

## ANSWER-A

It is true that evaluating the worth of a business is central to strategy implementation. There are circumstances where it is important to evaluate the actual worth of the business. These circumstances can be wide and varied. At a higher level they may include acquisition, merges or diversification. They may also include other situations such as fixing of share price in an issue. Acquisition, merger, retrenchment may require establishing the financial worth or cash value of a business to successfully implement such strategies.

(1 MARK)

Various methods for determining a business's worth can be grouped into three main approaches.

- (i) **Net worth or stockholders' equity:** Net worth is the total assets minus total outside liabilities of an organization.
- (ii) **Future benefits to owners through net profits:** These benefits are considered to be much greater than the amount of profits. A conservative rule of thumb is to establish a business's worth as five times the firm's current annual profit. A five-year average profit level could also be used.
- (iii) **Market-determined business worth:** This, in turn, involves three methods. First, the firm's worth may be based on the selling price of a similar company. The second approach is called the price-earnings ratio method whereby the market price of the firm's equity shares is divided by the annual earnings per share and multiplied by the firm's average net income for the preceding years. The third approach can be called the outstanding shares method whereby one has to simply multiply the number of shares outstanding by the market price per share and add a premium.

(5 MARKS)

### ANSWER-B

Turnaround is needed when an enterprise's performance deteriorates to a point that it needs a radical change of direction in strategy, and possibly in structure and culture as well. It is a highly - targeted effort to return an organization to profitability and increase positive cash flows to a sufficient level. It is used when both threats and weaknesses adversely affect the health of an organization so much that its basic survival is difficult.

The overall goal of turnaround strategy is to transform an underperforming or distressed company to normalcy in terms of acceptable levels of profitability, solvency, liquidity and cash flow. To achieve its objectives, turnaround strategy must reverse causes of distress, resolve the financial crisis, achieve a rapid improvement in financial performance, regain stakeholder support, and overcome internal constraints and unfavourable industry characteristics.

(4 MARKS)

### ANSWER-9

### ANSWER-A

Business organizations function within dynamic environment. The environment may vary from being conducive to hostile. Whatever be the conditions, implementation of strategic management is very important for the survival and growth of business organizations. Strategy implementation helps in improving the competence with which it is executed and helps organizations to sustain superior performance in following manner:

- ◆ Strategic management helps organizations to be more **proactive rather than reactive** in dealing with its future.
- ◆ It provides better **guidance to entire organization** on the crucial point – what it is trying to do.
- ◆ It facilitates to prepare the organization to **face the future**. Organizations are able to **identify the available opportunities** and identify ways and means as how to reach them.
- ◆ It serves as a **corporate defense mechanism** against mistakes and pitfalls.
- ◆ Over a period of time strategic management helps organization to evolve certain **core**

competencies and competitive advantages.

(5\*1 = 5 MARKS)

**ANSWER-B**

Mission statement is an answer to the question “Who we are and what we do” and hence has to focus on the organization’s present capabilities, focus activities and business makeup. An organization’s mission states what customers it serves, what need it satisfies, and what type of product it offers. It is an expression of the growth ambition of the organization.

A company’s mission statement is typically focused on its present business scope-“who we are and what we do”; mission statements broadly describe an organizations present capabilities, customer focus activities and business makeup.

(1 MARK)

The following points must be considered while writing a mission statement of a company.

- (i) To establish the special identity of the business - one that typically distinct it from other similarly positioned companies.
- (ii) Needs which business tries to satisfy, customer groups it wishes to target and the technologies and competencies it uses and the activities it performs.
- (iii) Good mission statements should be unique to the organization for which they are developed.
- (iv) The mission of a company should not be to make profit. Surpluses may be required for survival and growth, but cannot be mission of a company.

(4\*1 = 4 MARKS)

**ANSWER-10**

**ANSWER-A**

Aditya Bandopadhyay, an effective strategic leader of KaAthens Ltd. must be able to deal with the diverse and cognitively complex competitive situations that are characteristic of today’s competitive landscape.

A Strategic leader has several responsibilities, including the following:

- ◆ Making strategic decisions.
- ◆ Formulating policies and action plans to implement strategic decision.
- ◆ Ensuring effective communication in the organization.
- ◆ Managing human capital (perhaps the most critical of the strategic leader’s skills).
- ◆ Managing change in the organization.
- ◆ Creating and sustaining strong corporate culture.
- ◆ Sustaining high performance over time.

(5 MARKS)

## **ANSWER-B**

According to Porter, strategies allow organizations to gain competitive advantage from three different bases: cost leadership, differentiation, and focus. Porter called these base generic strategies.

Gennex has opted differentiation strategy. Its products are designed and produced to give the customer value and quality. They are unique and serve specific customer needs that are not met by other companies in the industry. Highly differentiated and unique hardware and software enables Gennex to charge premium prices for its products hence making higher profits and maintain its competitive position in the market.

Differentiation strategy is aimed at broad mass market and involves the creation of a product or service that is perceived by the customers as unique. The uniqueness can be associated with product design, brand image, features, technology, dealer network or customer service.

**(5 MARKS)**